NATIONAL HEALTH SERVICE CORPS EDUCATIONAL PROGRAM FOR CLINICAL AND COMMUNITY ISSUES IN PRIMARY CARE

HIV/AIDS MODULE

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SUBTOPIC 1

PREVENTING THE ACQUISITION AND FURTHER TRANSMISSION OF HIV

TIMELINE (45 minute limit)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
10 min	Overview
20 min	Review of Cases/Questions
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Nurse practitioner, physician assistant, certified nurse-midwife, medical students, and practicing clinicians.

At the end of this subtopic, the learner should be able to:

1. Determine who is at greatest risk for HIV infection.
2. Understand the important role of the sexual history in proper risk assessment.
3. Employ basic principles of adequate pre- and post-test counseling.
4. Understand the concept of teaching risk reduction to prevent further transmission of HIV infection.
5. Understand the concept of post-exposure prophylaxis as it relates to nonoccupational exposures to the HIV virus.

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SECTION 2 OVERVIEW

As of January 1998, it is estimated that 600,000 to 900,000 people in the United States are infected with the HIV virus. With estimates of only 250,000 of these individuals being significantly immunosuppressed, the majority of those infected are currently asymptomatic, many of whom still are unaware of their positive serostatus.

Recent clinical trials have definitively proven that use of combination anti-HIV agents as well as prophylactic agents against common opportunistic infections can markedly reduce the morbidity and mortality seen with HIV disease. However, to enjoy this benefit, it is essential that HIV infection is recognized at the earliest stage possible.

Primary health care providers must possess the skills to determine who is at increased risk among their patients for acquiring HIV infection. Many patients, while asymptomatic for HIV, will likely visit their providers for other reasons. Failure to incorporate risk assessment for HIV in these encounters may forfeit the patient's chance of obtaining the benefits of early intervention.

In the first 10 years of the epidemic, the primary focus was on the traditional high-risk groups of gay and bisexual men and intravenous drug users. As the demographics of the disease have changed, acquiring the infection through heterosexual transmission has become one of the most common routes to a new infection. Although urban minority communities have been hard hit by the epidemic, the incidence of HIV infection is also rising rapidly in small towns and rural America. Providers must focus on patient behaviors (i.e., sexual activity, intravenous drug use, transfusion history) and not their race, place of residence, or sexual preference, to determine who is at greatest risk.

Most HIV practitioners agree that thorough sexual and drug histories should become part of all patient encounters in which comprehensive histories are taken. Also, in patients presenting as high risk (i.e., with a sexually transmitted disease, stigmata of intravenous drug use, or conditions suggestive of immunodeficiency) a directed HIV risk assessment should be done during the encounter.

Recent studies have also suggested that the use of combination antiretroviral therapy early during the acute infection period may help to slow the progression of disease. Post-exposure prophylaxis, once thought of only in occupational settings, is also being considered for those who may have had a high-risk sexual or needle-sharing experience. All of these developments will require the primary care provider to be able to do accurate risk assessment and be familiar with the early signs of HIV infection. This way, the clinician will be able to best counsel newly infected patients on the proper treatment options.

Given the legal, social, and psychological ramifications of having a positive HIV test, it is essential that the provider practices appropriate pre-test counseling prior to administering the HIV test. Testing should always be voluntary and done in confidential or anonymous sites,

when available. Providers must make sure patients understand the nature of AIDS and related illnesses, as well as the meaning of a positive test. They should determine what patients think their test results will be, and how they may cope with a positive result. Providers should also become familiar with the services available in the community to support those who are HIV-positive.

Primary care providers can help prevent the acquisition and further spread of HIV. For those testing negative, providers should reinforce the need to maintain behaviors that reduce the patient's risk of infection. Whether post-exposure prophylaxis is undertaken or not, it is very important to work with these patients to avoid having them continue to take part in high-risk encounters.

For those who test positive, providers must address how the patient's behaviors can be adjusted to minimize risk of further transmission. Providers often can persuade patients to contact partners as well as assist them in maintaining low-risk sexual and intravenous drug using activity.

Attention to psychosocial issues at this stage is essential. Confirmation of an HIV-positive diagnosis brings about a host of initial reactions. Shock, denial, anger and confusion are often temporary but necessary reactions that help the patient adjust to the diagnosis.

The primary care provider can act as coordinator of services to make sure the patient receives appropriate psychological support. In areas where referrals to mental health services are not readily available, the primary care provider often must fill the void.

Overall, the primary care provider is an integral element in the effort to reduce the incidence of HIV infection. He or she can identify those at risk and encourage testing for those at high risk. Also, the provider can reinforce risk-reduction activities for all patients. He or she can provide the benefits of identification and early intervention for those who are infected. Just as importantly, he or she can provide support to those patients who must adjust to having a chronic, potentially terminal, illness.

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SECTION 3 CASE STUDIES/DISCUSSION QUESTIONS

Case 1

Mary C. is a 24–year–old African American female who comes to the practice for her annual pap and pelvic exam. Without complaints, the only medication she takes is an estrogen-based contraceptive. Her recent pap smear shows mild squamous atypia and the culture for gonorrhea is positive.*

1. What questions would you ask to better determine Mary C.'s risk for HIV infection?

2. Would her findings on pap smear or GC culture lead you to advocate HIV testing?

3. If you offered her testing, what would constitute adequate pre- and post-test counseling?

4. If she turned out to be HIV-positive, what advice would you offer to help reduce her risk of transmitting the infection?

5. What would you do if Mary told you she was not going to tell her partner about her HIV status?

*This case correlates to Case 2 in Subtopic 2, Case 3 in Subtopic 3, and Case 2 in Subtopic 4 and can be followed throughout.

Case 2

John W. is a 42–year–old white male who is married with two children. You provide care to his entire family at this practice site. He complains of a sore throat, low grade fever and mild flu-like symptoms. On physical exam you notice a fine macular papular rash on the thorax, which is nonpruritic.

1. Do the symptoms/signs the patient is having indicate HIV infection? If so, is treatment indicated?

2. If you determine John W. has not used intravenous drugs or had a transfusion, how would you determine his risk of HIV infection?

3. If John W. turns out to be HIV-positive, how would you handle informing and testing of the family?

4. If John's wife turns out to be HIV-negative and John is HIV-positive, how would you advise him about avoiding transmission of the virus?

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SECTION 4 SUGGESTED ANSWERS

Case 1

1. *What questions would you ask to better determine Mary C.'s risk for HIV infection?*

   Take a directed sexual history and intravenous drug using history. Review your choice of questions and interview strategies to best gather accurate information. The HIV risk assessment questionnaire handout can be used at this time. The use of culturally appropriate questions and approach to the patient will likely yield more open sharing on the patient's part.

2. *Would her findings on pap smear or GC culture lead you to advocate HIV testing?*

   The acquisition of one STD puts a person at risk for another. Squamous atypia may suggest a history of frequent vaginal infections, and would warrant further risk assessment. Studies have shown this atypia to be seven to eight times more prevalent in HIV-positive women compared to a matched HIV-negative cohort. Most experts would advocate offering testing in a case like this. Knowledge that heterosexual transmission of HIV to women is one of the fastest growing segments of new infections may lead you to consider more aggressive testing/screening in this population.

3. *If you offered her testing, what would constitute adequate pre- and post-test counseling?*

   Refer to the overview for a brief description of vital components and to Handouts/Overheads 1 and 2 [Query--ok?] for complete pre- and post-test counseling guidelines.

   Explore within your own practice setting who will do the various elements of the pre- and post-test counseling. Often, the physician or nurse practitioner will do the risk assessment and refer to another staff member for more extensive pre-test counseling. Post-test counseling duties may be shared by the physician and nurse practitioner as well as other practice staff. See Handouts/Overheads 4–6 for sample informed consent forms. [Query]

4. *If she turned out to be HIV-positive, what advice would you offer to help reduce her risk of transmitting the infection?*

   Counsel her concerning partner notification.

Advocate safer sex practices, for example, avoid activities where body fluids are shared; advise her concerning risk continuum of various activities.

If she is an intravenous drug user, advocate stopping and if that is impossible, then advocate no needle-sharing.

5. *What would you do if Mary told you she was not going to tell her partner about her HIV status?*

It is useful to discuss with patients, before they are tested for HIV infection, what they plan to tell their sexual or needle-sharing partners if they are positive.

Patients are often reluctant to tell their partners of their status. The provider can offer to meet with the patient and partner together. Also, they can be made aware of the availability of partner notification through the local or state health department.

Providers should explore their own legal and ethical restraints in deciding how they would handle this situation if the patient refused to notify his or her partners.

Case 2

1. *Do the symptoms/signs the patient is having indicate HIV infection? If so, is treatment indicated?*

This particular cluster of signs and symptoms may represent the acute retroviral syndrome. This commonly occurs three to six weeks after acquiring HIV infection and varies in the intensity of presenting symptoms. Recent studies have shown that patients with this syndrome have visited a health care provider more often than previously thought. Primary care providers need to be aware of this syndrome, do risk assessment, and order HIV testing when indicated. Studies also have suggested that treatment during this early period may lower the overall setpoint of chronic infection and thus delay progression. Consultation with an HIV specialist and/or review of the latest public health service guidelines would be indicated prior to starting therapy.

2. *If you determine John W. has not used intravenous drugs or had a transfusion, how would you determine his risk of HIV infection?*

Here, the issue of discussing bisexuality with patients should be dealt with. Stress the importance of sexual history questions, including a determination of whether the patient has had sex with both same- and opposite-sex partners. If you review with the patient the reasons you are asking these questions, you will more likely get accurate answers. Failure to include these questions may cause you to miss people at significant risk. This is sometimes more difficult for the provider who also cares for the heterosexual female partner.

3. *If John W. turns out to be HIV-positive, how would you handle informing and testing of the family?*

It is often wise to discuss this possible outcome and determine the family's current knowledge level and attitudes concerning HIV infection prior to testing. Disclosure to the family of the patient's results may be facilitated by an encounter at the practice. Most practitioners would advise testing the wife and/or other sexual partners first. Only if the wife is HIV-positive should children under the age of six or older children who are symptomatic be offered testing.

If the practice is set in a small town or rural area that does not have alternative testing sites, the patient and family may have to be tested at the practice. Prior to testing, it is important to assure that the family can receive testing in a confidential manner and determine which staff members will be aware of their serostatus.

4. *If John's wife turns out to be HIV-negative and John is HIV-positive, how would you advise him about avoiding transmission of the HIV virus?*

Familiarize them with the concept of safer sex. In general, exchange of body fluids—semen, urine, blood and feces—should be avoided. Proper use of condoms, with water based lubricants, should be reviewed. Referral, when possible, to health educators or counselors; review and support of risk reduction activity should be instituted.

SECTION 5 SUGGESTED READING

1. Makadon H.J. Prevention of HIV Infection in primary care: Current practices, future possibilities. *Annals Internal Medicine* 1995 Nov 1; 123(9): 715–719
   General review of risk assessment, counseling and prevention strategies within a primary care setting.

2. Anastos K, Pallega S. Caring for women at risk of HIV infection. *J Gen Intern Med.* 1991;6:S40–46.
   Reviews the special concerns and issues of women at risk when they present within the primary care setting.

3. Soloway B, Hecht F. Identifying patients at risk for HIV infection. *AIDS Clinical Care*. 1990;2:10.
   Reviews possible interview strategies along with examples of a focused HIV history and physical exam.

4. Internet resources:
   <http://www.gmhc.org hotline> offers counseling and workshop information, the basics of HIV testing and prevention.
   <http://www.cdcnac.org> is CDC's National AIDS Clearinghouse, educational materials available on HIV/AIDS.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **AIDS in the Black Community: The Physician's Role (1990).** Videotape, 16 minutes; facilitator's guide. Targeted to primary care physicians who treat a large percentage of African American patients. Focuses on five segments: how cultural differences play a part in dealing with patients; the importance of sexual and drug history taking; pre-test counseling for patients suspected of HIV/AIDS infection; post-test counseling; and educating the African American community about prevention of HIV and AIDS.

   Author/Developer: Envision, Inc., Victoria L. Harris, EdD and Judith N. Presley, MD
   Contact: Jim Pearsol, East Central AIDS ETC: 614-292-1400.

2. **Counseling Persons at Risk for HIV Infection (November 1990).** Videotape, 22 minutes. An African American physician counsels a young African American man following a positive HIV test. Deals with: explaining to the patient he is infected with the virus, risk factors, interview and counseling techniques, compliance, the establishment of physician-patient trust, and denial.

   Author/Developer: Zemmar Lenlor, III, MD, Wilbert C. Jordan, MD, MPH and Peggy Wallace, PhD
   Contact: Jerry Gates, PhD, AIDS ETC for Southern California: 213-342-1846.

3. **HIV Testing & Risk Assessment (November 1989).** Videotape, 22 minutes; facilitator's guide. Covers: sexual history taking, behaviors that could put a patient at risk for contracting HIV, pre- and post-test counseling, and the lab tests used to detect HIV infection.

   Author/Developer: Michael F. Para, MD
   Contact: Jim Pearsol, East Center ETC: 614-292-1400.

   SLIDE SETS: Risk Assessment and HIV Counseling and Testing Shiloh-Cryer A. Delta Region AIDS ETC: 504-568-3855.

Risk Assessment for the Primary Care Provider Martin J
Delta Region AIDS ETC: 504-568-3855.

SECTION 7 HANDOUTS/OVERHEADS (ATTACHED)

Pre-HIV Test Counseling

Before testing, the primary care provider should assess the patient's understanding of the test and its implications as well as his or her ability to deal with the results and the benefits of obtaining the information.

Topics that should be covered in the pre-test counseling session:

1. The nature of AIDS and its related illnesses.

2. The behaviors that put one at risk for acquiring HIV infection.

3. The advantages of knowing one's antibody status for medical management of HIV infection and other conditions.

4. What an HIV antibody test result means.

5. What the patient expects his or her test results to be.

6. How the patient will cope with the psychosocial ramifications of a positive test result, whether the patient has health insurance, and whether he or she should obtain health insurance before being tested.

7. If the test result is positive, how the patient will tell his or her partners.

8. The importance of partner notification and the availability of the Department of Public Health to help with this task.

9. The patient's understanding of how he or she can reduce the risk of infection, including the use of condoms.

10. Review of the possibilities of discrimination that may result from disclosure of a patient's antibody status.

11. Finally, the patient should be encouraged to identify:

    a. One person who knows he or she is being tested
    b. One person with whom he or she can discuss the test
    c. What he or she plans to do in the 24 hours immediately following receipt of the test result

HANDOUT/OVERHEAD 1

Post-HIV Test Counseling

Post-test counseling should always be provided, regardless of the test result. It is an opportunity for the primary care provider to emphasize the importance of risk-reduction practices (such as the use of condoms and reduction in the number of partners) to both seropositive and seronegative patients.

For persons who test positive, post-test counseling offers them the opportunity to express their feelings and concerns. It also permits the provider to clarify the implications of a positive test and plan medical follow-up and management.

Post-test counseling for HIV-positive individuals should cover:

1. Information on available medical treatment and counseling services

2. Coping with the emotional consequences of learning the results, including development of a social support plan

3. Behavioral change to prevent transmission, including how to use condoms and, where appropriate, how to enter drug and alcohol abuse treatment programs

4. Discrimination problems that could be caused by disclosure of the patient's antibody status

5. The need to notify sexual and needle-sharing partners

6. The need for regular follow-up appointments for health maintenance

HANDOUT/OVERHEAD 2

A Sample HIV Risk-Assessment Questionnaire

Following are examples of questions primary care providers should ask to establish a patient's risk for HIV infection:

Do you have sex with men, women, or both?

About how many sexual partners have you had in the past 10 years? Closer to one, five, 20, 100, or more?

Have you ever had a sexually transmitted disease?

Do you use condoms? If so, sometimes or always? When did you begin using them?

Do you ever have a man put his penis into your rectum?

Have any of your sexual partners been gay or bisexual men, intravenous drugs users, or developed AIDS?

Have you ever traded sex for money or drugs?

Do you smoke cigarettes, drink alcohol, or use other drugs?

(If the patient uses intravenous drugs) Do you share needles, cookers, or other drug equipment?

(If the patient is a former intravenous drug user) When did you stop using intravenous drugs? Did you share needles, cookers, or other drug equipment? If so, until when?

Have you ever used crack cocaine?

(If the patient has used crack) Have you had sex in crack houses?

Did you receive any blood transfusions or have surgery between 1978 and 1985?

HANDOUT/OVERHEAD 3

Sample Consent Form

HIV TESTING/PATIENT CONSENT

I understand that my physicians wish to obtain laboratory studies to determine if I have been infected with the human immunodeficiency virus (HIV), the cause of the acquired immunodeficiency syndrome (AIDS) and related conditions.

I understand that the test results are needed in order to provide proper care and/or counseling regarding sexual activity or childbearing.

I understand that the test results and other information relating to my condition may become a part of my permanent medical record. As such, it may be given to other health care workers as needed for medical/social services, to the health department or others as required by law, or to medical insurance companies for payment, but will not be given to others without my further consent.

I understand that private insurance companies may limit future coverage if a diagnosis of HIV infection is made based on the test results or other information in my record.

I understand that I have the right to refuse to have the test done here and that such refusal will not affect my right to future care, treatment, benefits, or programs for which I am otherwise eligible.

I understand that I will be given counseling by my physician and referral if needed based on the test results.

I acknowledge that I have been informed of the reasons for obtaining the HIV test, the advantages and possible disadvantages of doing so, and that all of my questions regarding this procedure have been answered in a satisfactory manner. I hereby give my consent for the performance of HIV testing on myself.

Signature Date

Patient.....

Parent (minors).....

Witness.....

Consentor.....

HIV TESTING/DECLARATION ON INCOMPETENCE

We certify that this patient has been declared incompetent to make an informed decision as consistent with hospital policy, and we feel that the results of the test are essential to the medical care of this patient.

HANDOUT/OVERHEAD 4

Informed Consent and Agreement to HIV Testing

With my signature below, I acknowledge that I have read (or have had read to me) and understand the following information:

FACTS ABOUT HIV TESTING (HIV-1 ANTIBODY OR OTHER HIV TESTS)

I HAVE BEEN TOLD THAT: (1) My blood will be tested for signs of an infection by the Human Immunodeficiency Virus, the virus that causes AIDS; (2) My consent to have my blood tested for HIV infection should be FREELY given; (3) I understand that the results of this test are confidential and will not be released to anyone who would not legally have access to my medical record except by my signed consent or as otherwise allowed by law (see reverse), but that confidentiality cannot be guaranteed; (4) HIV test results will be released along with my medical record unless I specifically indicate my refusal to release HIV test results when signing a release for my medical records. This refusal would only apply to the release of the actual laboratory slip in the medical record and not to other notations made by health professionals in my medical record; (5) If I wish to be tested anonymously, my health care provider should provide me with a referral, unless I am an inpatient in a hospital. He/she can call the Louisiana AIDS Hotline at 1-800-99AIDS9 or the local parish Health Unit to find out where I can be tested anonymously.

WHAT A REACTIVE (POSITIVE) TEST MEANS:
A reactive HIV test means that I have the HIV infection and can spread the virus to others by having sex, sharing needles in drug use or from a mother to her child during pregnancy.

A reactive test DOES NOT mean that I have AIDS. Other tests are needed.

If my test result is reactive, I may experience emotional discomfort; and if my test result becomes known in the community, I may experience discrimination in work and personal relationships.

WHAT A NON-REACTIVE (NEGATIVE) RESULT MEANS:
In most instances, a non-reactive test means that a person is not infected; however, it can take three to six months (or longer) for the HIV ANTIBODY test to become reactive AFTER infection.

Although I have a non-reactive test now, I can still become infected by having unprotected sex or by sharing needles in drug use.

WHAT SHOULD BE DONE IF MY TEST IS REACTIVE (POSITIVE)?
I should seek medical care, as monitoring and treatment of the HIV infection may improve my quality of life and lead to a longer life.

I will be told how to keep from spreading the HIV infection by: (1) Avoiding sexual intercourse, or practicing SAFER sex; (2) Not sharing drug needles—better still, getting off drugs; (3) Not donating or selling my blood, plasma, organs, or sperm; (4) Avoiding pregnancy or (if I'm a male) not getting a woman pregnant; and (5) Not breast-feeding or donating breast milk. If further testing reveals that I have AIDS, my name will be reported to the State Office of Public Health to assist me in obtaining services and to help the Health Department understand and control the AIDS problem; I know that the Office of Public Health or my doctor may assist me in notifying and referring my partners for medical services without giving my name to my partners; and if I refuse to notify my partner(s), my doctor may either notify them or have the Office of Public Health do so. In this case, my name will not be used.

I have had a chance to have my questions about this test answered.

I hereby agree to have my blood drawn for the HIV (antibody, or_____) test.
specify

.....
Signature Date

.....
Signature of Provider Date

HANDOUT/OVERHEAD 5

Reverse Side of Consent Form

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Louisiana law authorizes disclosure of HIV test results without the consent of the person tested as follows:

- To any person to whom disclosure of medical information is authorized by law without the consent of the patient.
- To a health care facility/provider who (a) is permitted access to medical records; (b) is authorized to obtain HIV test results; or (c) maintains or processes medical records for billing or reimbursement purposes.
- To a health care facility/provider when knowledge of HIV test results is necessary to provide appropriate care or treatment and to afford the provider an opportunity to protect themselves from transmission of the virus.
- To a health care facility/provider in relation to use of body parts for medical education, research, therapy, or transplantation.
- To a health facility staff committee, accreditation or oversight review organization authorized to access medical records.
- To a federal, state, parish, or local health officer when the disclosure is mandated by federal or state law.
- To an agency or individual in connection with the foster care programs of the Department of Social Services or to an agency or individual in connection with the adoption of a child.
- To any person to whom disclosure is ordered by a court of competent jurisdiction.
- To an employee or agent of the Board of Parole of the Department of Public Safety and Corrections (or of its office of parole) to the extent the employee or agent is authorized to access records containing HIV test results.
- To a medical director of a local correctional institution to the extent he/she is authorized to access records containing HIV test results.
- To an employee or authorized agent of the Department of Social Services, Office of Rehabilitative Services.
- To an insurer, insurance administrator, self-insured employer, self-insurance trust, or other person or entity responsible for paying or determining payment for medical services to the extent necessary to secure payment for those services.

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WHAT YOU NEED TO KNOW ABOUT HIV INFECTION AND DISCRIMINATION

Federal law prohibits discrimination against HIV-infected persons in the rental or purchase of housing. Federal and state laws do prohibit discrimination against persons with HIV with regards to employment. If you feel that you have been discriminated against, you may call the U.S. Department of Health and Human Services, Office for Civil Rights, 214-767-4056

HANDOUT/OVERHEAD 6 [query]

SUBTOPIC 2

PROVIDING EARLY INTERVENTION CARE TO THE NEWLY DIAGNOSED ADULT HIV-POSITIVE PATIENT

TIMELINE (45 minute limit)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
10 min	Overview
20 min	Review of Cases/Questions (minimum of two cases discussed)
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Nurse practitioner, physician assistant, certified nurse-midwife, and medical students, and practicing clinicians.

At the end of this subtopic, the learner should be able to:

1. Employ the proper components of an HIV-focused history, and physical and diagnostic work-up to provide staging of a newly diagnosed adult HIV-positive patient.

2. Understand the indications for initiation and management of anti-HIV agents in early care.

3. List the current regimens in use for prophylaxis of the common opportunistic infections seen in HIV disease.

SECTION 2 OVERVIEW

Clinical trials have demonstrated that the morbidity and mortality associated with HIV disease can be markedly decreased if combination antiretroviral therapy and prophylactic regimens for common opportunistic infections are instituted early in the course of illness. Prior to instituting therapy, clinical and immunological staging of the patient must take place so that the appropriate medication regimen can be chosen.

Staging of the patient requires taking an HIV-focused history as well as performing a physical exam and completing a series of laboratory and diagnostic evaluations. Suggested components of each of these elements is listed in the reference section that follows this module. [query--what reference section? this isn't clear]

The availability of laboratory tests that measure the amount of HIV virus within the patient's serum has revolutionized the care of HIV-positive patients in the past two years. The discovery that otherwise asymptomatic patients can have large amounts of virus present has led clinicians to want to treat patients earlier in their course of disease. These viral load tests are also used to monitor the efficacy of the combination antiviral regimens that are instituted. The goal of treatment is to maintain the viral load at an undetectable level without the patient suffering significant side effects of the medications.

When the workup is completed, the primary care provider compiles the data from the history, physical and diagnostic work-up to develop with the patient an initial treatment plan. This plan should include:

1. An emphasis on health maintenance, incorporating both risk and stress reduction

2. Decision on timing of initiation of combination antiretroviral therapy

3. Need for prophylactic agents for opportunistic infections

4. Schedule of necessary laboratory and provider visit follow-up needed

5. Commitment from patient/provider for adherence to the medical regimen

6. Referral to community services/mental health services for psychosocial support as needed

Recent guidelines released from the Department of Health and Human Services recommend the institution of a combination of anti-HIV agents when the patient's CD4 count drops below 500 or he or she has evidence of significant levels of HIV virus within the serum. Please review guidelines placed in reference section titled "Use of Antiviral Medications in HIV Disease" for the most current recommendations. [query--what is this? A publication listed in the reference list?]

Providers should be aware that these recommendations are frequently changing as new research results become available. The most current guidelines are available from DHHS and/or the internet (see reference section).

Use of these combination antiretroviral regimens requires frequent laboratory testing to both assess the efficacy of treatment as well as to monitor for side effects. Guidelines are now available that suggest the timing and frequency of this follow up.

Prophylaxis for the common opportunistic infections seen in HIV disease are instituted at set CD4 levels based on when the likelihood of acquiring an opportunistic infection is the greatest. DHHS has also recently released guidelines on the preferred first-line medications that should be used for prophylaxis. Although CD4 counts may rise significantly after the institution of combination antiviral therapy, most providers choose to maintain patients on the prophylactic regimens.

In addition, patients should receive immunization for pneumococcal pneumonia, measles (those born after 1957), and influenza. Booster doses for normal childhood illnesses should also be maintained.

It is important that pregnant women at high risk for HIV are screened for evidence of the infection. Protocols are available through DHHS that guide the use of anti-HIV agents during the pregnancy and for the infant after delivery. Women should be able to avail themselves of the latest combination antiviral therapy regardless of their pregnancy status.

Through the use of proper early intervention, patients can be accurately staged, a treatment plan determined, and proper antiretroviral and prophylactic regimens employed. These actions will most likely delay progression of the disease, significantly reducing the morbidity and mortality associated with HIV infection.

SECTION 3 CASE STUDIES/DISCUSSION QUESTIONS

Case 1

John W. is a 47–year–old white male who comes to the practice. He recently gave blood and was told he was HIV-positive. He tells you he is feeling fine and cannot believe this has happened to him.

1. What history-taking questions would you focus on to determine evidence of immune suppression?

2. If you had to choose four or five areas of the physical exam to concentrate on, what would they be and why?

3. What laboratory and diagnostic testing would you order?

4. How would you stage the patient?

5. What other resources are available to help this patient cope with this new diagnosis?

Case 2

Mary C. is a 24–year–old African American female who returns to your office after her CD4 cell and viral load testing. The CD4 count is 350 with percent of lymphocytes 25. Her viral load, by PCR technique, is 175,000. Other than occasional vaginal candidiasis, she has been asymptomatic.*

1. What are current regimens for initiating antiretroviral therapy?

2. What immunizations and prophylactic regimens should also be employed?

Mary returns two months later after missing her period. A urine pregnancy test is positive. She informs you that she plans to carry the pregnancy to term.

3. What do you recommend for antiretroviral therapy for Mary during the pregnancy and for her baby after the delivery?

* This case correlates to Case 1 in Subtopic 1, Case 3 in Subtopic 3, and Case 2 in Subtopic 4, and can be followed throughout.

Case 3

Sam M. is a 32–year–old white male who has been on Zidovudine, 200mg, 3x/day and Epivir 150 mg twice a day for seven months. He had been followed by another physician but is now

transferring to your clinic. His most recent CD4 count was 180 with percent lymphocytes 14. His last viral load test (done by PCR method) was 35,000. He comes today for his first visit mainly to ask your opinion on whether he is on the appropriate medications given his stage of disease.

1. Would you change this patient's antiretroviral regimen? If so, why and to what medications?

2. What prophylactic medications are indicated at this point?

SECTION 4 SUGGESTED ANSWERS

Case 1

1. *What history-taking questions would you focus on to determine evidence of immune suppression?*

   Assess for evidence of constitutional symptoms (i.e. fever, weight loss, diarrhea, and fatigue). Determine whether these conditions are recurrent and have lasted at least two months. Refer to references 1 and 2 for more complete history-taking information.

2. *If you had to choose four or five areas of the physical exam to concentrate on, what would they be and why?*

   Possible areas to consider include the: Eyes, Mouth, Skin, Abdomen, G/U and Neurologic exam. Some findings to review from these areas:

   Eyes—Cotton wool exudates are evidence of HIV retinopathy. This may be an early sign in an otherwise asymptomatic patient.

   Mouth—Ulcers (HSV, aphthous, CMV), thrush, oral hairy leukoplakia, Kaposi's sarcoma.

   Skin—Other early manifestations of HIV, seborrheic dermatitis, pruritic folliculitis, tinea, and dry skin are among common findings.

   Abdomen—Hepatomegaly and splenomegaly are findings often seen in early HIV infection. Splenomegaly may be a prognostic sign of more rapid disease progression. Hepatomegaly may be secondary to coinfection with a Hepatitis virus or may be due to HIV alone.

   G/U—Ulcers (should rule out HSV and syphilis), warts (likely human papilloma virus, rule out condyloma latum). Review increased incidence of cervical dysplasia as well as pelvic inflammatory disease in HIV infected women—need for more frequent pelvic exams and pap smears (currently q six months).

3. *What laboratory and diagnostic testing would you order?*

   Refer to handout on guidelines for initial baseline lab work [query--where is this handout?]. It is important to review viral load testing with respect to lab method as well as parameters for instituting treatment. Other recent changes include not

recommending anergy testing along with the PPD. Consulting HIV clinical databases on the Internet may also provide updates on needed diagnostic testing.

4. *How would you stage the patient?*

Review current guidelines from the U.S. Centers for Disease Control and Prevention (CDC). You can illustrate this concept by substituting various CD4 and viral load numbers and physical findings and then determine staging.

5. *What other resources are available to help this patient cope with this new diagnosis?*

Referral to state- and community-based HIV services (or local services able to accommodate persons with HIV), availability of clinical trials and, if needed, referral to mental health services (support groups). It would be helpful to distribute a listing of available resources in your community at this time.

Case 2

1. *What are current regimens for initiating antiretroviral therapy?*

Refer to DHHS guidelines for institution of antiretroviral therapy. Graphic summaries of these guidelines are included in the reference section. The important concepts to emphasize include: (1) the move to treating people earlier and with more aggressive regimens (2) asymptomatic patients can actually have very high viral loads and need treatment (3) the goal is to bring the viral load to an undetectable level and monitor the patient frequently to make sure this goal is maintained and (4) adherence to these regimens is essential to maintain long-term viral suppression.

2. *What immunizations and prophylactic regimens should also be employed?*

Refer to most recent DHHS guidelines regarding immunization and prophylactic regimens. Emphasize that although studies are currently evaluating the practice, that patients remain on prophylactic regimens even if CD4 counts rise above cutoffs due to the beneficial effects of antiviral therapy.

3. *What do you recommend for antiretroviral therapy for Mary during the pregnancy and for her baby after the delivery?*

The DHHS has developed guidelines for the treatment of the HIV-positive pregnant female. It is essential that women either start or remain on antiviral therapy and that the baby receives similar medication after delivered to reduce the chances of vertical

transmission. Women already on combination antiviral therapy do not need to stop when they become pregnant. See reference list for most recent guidelines or consult Internet search.

Case 3

1. *Would you change this patient's antiretroviral regimen? If so, why and to what medications?*

   The goal of combination antiretroviral therapy should be to lower the viral load to an undetectable level. Given the patient's viral load result and CD4 count indicating significant immunosuppression, a change is in order. The trend of viral loads and CD4 counts since starting therapy will need to be reviewed before changing the regimen. Most experts would suggest a wholesale change if it appears the current regimen is not able to lower the viral load. Providers should consult the most recent guidelines on suggested initial and salvage regimens for guidance. (See reference section.)

2. *What prophylactic medications are indicated at this point?*

   Review of the most recent DHHS guidelines on prophylaxis for opportunistic infections would provide suggestions on the preferred medications and CD4 cutoffs for instituting therapy. As well, the most current recommendations on use of immunizations will also be contained there. Refer to reference section for graphic summary of these.

SECTION 5 SUGGESTED READING

1. *Guidelines for the Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents*. Department of Health and Human Services Consensus Panel. November 5, 1997.

2. Advisory Group on HIV Early Intervention, Second Edition, American Medical Association *Arch Fam Med*. 1994 Nov;3(11): 988–102

3. 1997 U.S. Public Health Service/ Infectious Disease Society of America. *Guidelines for the Prevention of Opportunistic Infections in Persons Infected with Human Immunodeficiency Virus,* June 27 1997.

4. Public Health Service Task Force Recommendations for the Use of Antiretroviral Drugs in Pregnant Women Infected with HIV-1 Transmission in the United States, 1998 Jan 30;47(RR-02)

5. Internet sources:
   HIV/AIDS Treatment Information Service (ATIS): <http://www.hivatis.org>
   CDC's National AIDS Clearinghouse: <http://www.cdcnac.org>

SECTION 6 AUDIO-VISUAL RESOURCES/PUBLICATIONS

1. **The Initial Intake Interview: A New Patient with HIV Infection. (Videotape)** Part One: Medical Aspects–16 minutes
   Part Two: Psychosocial Aspects–17 minutes
   Northwest AIDS Education and Training Center
   University of Washington, 1001 Broadway, Suite 217
   Seattle, WA 98122; 1993

2. **Prophylaxis of Opportunistic Infections in HIV Patients. (Slide set)** Delta Region AIDS
   ETC, Murphy, M., 1997: 504-568-3855; 32 slide collection

3. **Women & AIDS: Early Intervention Issues (April 1992, revised 1997)**. 35mm Slide-Lecture Curriculum.
   Author/Developer: Pindaro C, Brandon W, Lindhorst T.
   Revised by Demestre J. Clark R
   Contact: Delta Region AIDS ETC. 504-568-3855.

4. ***AIDS/HIV Experimental Treatment Directory.*** American Foundation for AIDS Research (AmFar). $30. Quarterly newsletter. 212-710-003.

5. *AIDS Patient Care.* Mary Ann Liebert, Inc., 1651 Third Avenue, New York, NY 10128. $75. Six issues per year.

6. *AIDS Clinical Care.* Massachusetts Medical Society, 1400 Main Street, Waltham, MA 02154-1649. Targeted to physicians with AIDS patients. $68. Monthly newsletter.

SECTION 7 HANDOUTS (ATTACHED)

SUBTOPIC 3

MANAGING SOME OF THE COMMON OPPORTUNISTIC INFECTIONS IN ADVANCED HIV INFECTION

TIMELINE (45 minute limit)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
10 min	Overview
20 min	Review of Cases/Questions (minimum of two cases discussed)
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Nurse practitioner, physician assistant, certified nurse-midwife and medical students (upper level), residents, and practicing clinicians.

At the end of this subtopic, the learner should be able to:

1. Understand the clinical, laboratory, and diagnostic parameters used in diagnosing pneumocystis carinii pneumonia (PCP).

2. Determine the situations in which PCP can be managed in the outpatient setting.

3. Recognize the common manifestations of mycobacterial infection in HIV disease.

4. Differentiate between the common clinical and diagnostic parameters seen in central nervous system infections in those with HIV disease.

SECTION 2 OVERVIEW

Even with the use of more potent antiretroviral and prophylactic regimens, pneumocystis [query--should carinii be added here?] pneumonia (PCP) still remains one of the most common HIV-related opportunistic infections. Thus, it is crucial for the primary care provider to be able to determine which clinical, laboratory, and diagnostic parameters indicate PCP as the etiology of a respiratory illness in a patient with HIV disease.

An important factor in making this determination is the patient's current level of immunosuppression. Data from several prospective studies show that it is unusual for a person to have PCP with a CD4 count greater than 350. In addition, the clinical signs/symptoms of: (1) non-productive cough, (2) progressive dyspnea, (3) presence of oral lesions, and (4) increased night sweats can lend support to making the diagnosis. Lab values of increased sedimentation rate and LDH along with a chest x-ray that reveals perihilar interstitial infiltrates can also add to the suspicion of PCP.

Both outpatient diagnosis and management of mildly symptomatic PCP patients have become more common along with the increased use of ambulatory sputum inductions and blood gas determinations. For those patients without significant respiratory distress who are able to tolerate oral medications, a trial of outpatient therapy can be attempted.

Along with PCP, manifestations of mycobacterial infection are among the most common opportunistic infections seen in those with HIV disease. All patients with HIV infection should receive skin testing as part of their initial work-up. Anergy testing is no longer recommended to be included at this time. Those patients with positive tests should have a follow-up chest x-ray as well as periodic symptom review to detect active tuberculosis.

Prophylactic regimens are recommended for those who have a positive PPD (> 5mm induration) or a significant exposure to someone with tuberculosis. Tuberculosis is generally a disease seen in early to mid-stage HIV infection but can occur at any stage. Because of the increased incidence of multi-drug resistant tuberculosis in those patients who do not take their medications regularly, adherence to anti-TB is essential.

The atypical mycobacteria, most notably the Mycobacterium Avium Complex (MAC), presents a diagnostic and therapeutic dilemma. As patients with HIV live longer, MAC has become one of the most common opportunistic infections seen. Multi-drug therapy is indicated in those patients with evidence of dissemination and symptoms such as weight loss, malaise, fever, and diarrhea. Consultation with an HIV expert can update you on the latest recommendation for therapy. Prophylaxis for those with low CD4 counts (<50) but no signs of active disease is also indicated.

Although the incidence of all opportunistic infections has been lowered dramatically in patients on aggressive antiretroviral regimens, neurological involvement is still common in many patients with HIV infection. Cryptococcal meningitis and toxoplasmosis encephalitis are the

most common infectious neurological syndromes. It is important for the primary care provider to understand the different clinical, laboratory, and diagnostic parameters that distinguish the presentation of these two infections.

Although initial therapy remains, for the most part, an inpatient experience, both entities require lifetime, suppressive therapy that must be managed by the outpatient provider. Home health agencies play an important role in providing this service when intravenous therapy is required.

As the disease progresses, patients often have several significant psychosocial concerns. In this day of success stories on antiretroviral therapy, patients often feel they have failed somehow if they develop an OI. Recognizing the loss of independence and the inability to control the circumstances of illness that patients must endure at this stage is important. You may be able to help ameliorate some of the stress patients experience by discussing the illness openly to ventilate fear, anxiety, and anger, and utilizing available support services, including individual and group therapy.

Even though the overall incidence of opportunistic infections is decreasing, primary care providers still must be able to identify and treat the most common opportunistic infections. Developing a relationship with an HIV specialist at a high-volume center where these cases can be comanaged is often very helpful.

SECTION 3 CASE STUDIES/DISCUSSION QUESTIONS

Case 1

Bill L. is a 24–year–old white male who presents to the emergency room with complaint of cough, temperature of 102 during the past three days, and mild shortness of breath. He reveals to you that he is HIV positive but has never had any treatment.

1. What additional historical information would be useful in determining whether this is PCP?

2. What laboratory and diagnostic tests would be useful in making the diagnosis?

3. What factors would you consider, if sputum is positive for PCP, to determine outpatient management?

4. What are the current common regimens for treating PCP?

5. What would be important follow up for the patient when the episode of PCP has resolved?

Case 2

John M. is a 32–year–old African American male who is HIV-positive with a CD4 count of 400 and an undetectable viral load. He now presents with weight loss of 10 pounds over the last month, malaise, and night sweats. Further questioning reveals a history of a positive PPD three years ago at which time the patient was given meds but did not take them. Medications include AZT 300 mg 2x/day, 3TC 150 mg 2x/day, Crixivan 800mg 3x/day.

1. How should you manage a person who is HIV-positive and also has a positive PPD?

2. How would you diagnose active tuberculosis disease in this case? If you determine he has active disease, how would you treat him?

Case 3

Mary C. is a 24–year–old African American female with past medical history of PCP twice and recurrent vaginal candidiasis. Her latest CD4 count was 45. She presents with complaint of headache, temperature of 101 and states "she's having trouble remembering events of the past week." Medications include ddI 200 mg bid, D4T 40 mg bid and Nelfinavir 1250 mg BID

along with Bactrim DS 1 qday and Fluconazole 100 mg qwk and Azithromycin 1200 mg once a week.*

1. How would you differentiate between cryptococcus and toxoplasmosis infections with respect to:

    a. clinical presentations
    b. laboratory parameters
    c. diagnostic workups

2. What are the current treatment regimens—including initial therapy and life-long suppression—for cryptococcal meningitis and toxoplasmic encephalitis?

*This case correlates to Case 1 in Subtopic 1, Case 2 in Subtopic 2, and Case 2 in Subtopic 4 and can be followed throughout.

SECTION 4 SUGGESTED ANSWERS

Case 1

1. *What additional historical information would be useful in determining whether this is PCP?*

   When reviewing the differential of respiratory illnesses in HIV-positive patients, you should emphasize the progressive nature of dyspnea in PCP, presence of a non-productive cough and low-grade fever, as well as confirm the presence or absence of night sweats. Also, it is important to verify compliance with past PCP prophylaxis. Most importantly, confirm the level of immunosuppression, if possible, because PCP will be rare in individuals with T4 cells of >350. In patients like this where the immunological status is unknown, the suspicion for PCP should be high until the CD4 count is known.

2. *What laboratory and diagnostic tests would be useful in making the diagnosis?*

   In studies to determine variables that are significant in predicting high risk of PCP, it was found that an elevated sed rate and LDH, along with chest x-ray findings of perihilar infiltrates, were very significant. The presence of oral lesions at time of presentation may also be a diagnostic clue. Patients presenting as high-risk based on these parameters, as well as those with a classic clinical presentation, should undergo sputum induction with appropriate staining techniques to rule out both mycobacterium and PCP. Refer to Handout/Overhead 1 on diagnosing PCP.

3. *What factors would you consider, if sputum is positive for PCP, to determine outpatient management?*

   Important factors in determining whether outpatient therapy is appropriate include:

   1. Level of respiratory distress—need for oxygen therapy
   2. Ability to tolerate po medications
   3. Assessment of patient compliance and resources at home

4. *What are the current common regimens for treating PCP?*

   TMP-SMX remains the drug of choice for first-line treatment of PCP. Sensitization protocols are now available for those with documented sulfa allergies. Dapsone with trimethoprim is also an alternative for those who cannot tolerate the other medications. Those who are intolerant or do not respond may need to be switched to aerosol Pentamidine.

5. *What would be important follow-up for the patient when the PCP episode has resolved?*

It will be important to assess the agent used for PCP prophylaxis (if any) prior to the episode of PCP. If the patient has broken through on one therapy, you may wish to switch agents. If the patient was not on medication or noncompliant, this also needs to be addressed.

Also, the diagnosis of PCP is often the condition that gives patients a diagnosis of AIDS. This is often important for disability and other financial support determinations. Because this diagnosis may signal progression of illness, a discussion of advanced directives (patient's wishes for terminal or crisis care) is essential at this point.

Case 2

1. *How should you manage a person who is HIV-positive and also has a positive PPD?*

Stress the importance of needing a referral for a chest x-ray to rule out active disease. If no active disease is present, prophylaxis in patients with HIV infection is indicated. Discuss current regimens, including INH x 6 mos. vs. 2 drug shorter term therapy (refer to latest CDC *MMWR* recommendations). Refer to Handout/Overhead 2 entitled "HIV and TB: Important Considerations."

2. *How would you diagnose active tuberculosis disease in this case? If you determine he has active disease, how would you treat him?*

Common clinical and chest x-ray presentations of tuberculosis should be reviewed at this time. Teacher may also elaborate on how these may vary and often be atypical in those with HIV infection.

Diagnosis after suspicious chest x-ray and/or clinical findings is made by obtaining subsequent sputum samples gathered in early morning. These specimens should be stained to determine presence of acid fast bacteria. Cultures of smears and concentrate should then be done to confirm the diagnosis. Recent advances have allowed more rapid determination of tuberculosis as well as the various atypical mycobacteriums.

Treatment—Review current CDC recommendations for treatments. Discussion of the need for longer therapy in those infected with HIV, along with any recent clinical trial information, can occur at this time. Be aware that the use of rifampin is contraindicated with some of the protease inhibitors such as Crixivan. Consultation with an HIV experienced pharmacist is helpful prior to designing a medication regimen.

Emphasize the need for infection-control practices to reduce transmission within the office. Review your current clinical protocols to minimize this risk. Also, determine a referral process to the local health department for contact tracing and follow-up care.

Educate patient to minimize further transmission, including use of masks and testing of contacts. Refer to Handout/Overhead 2 entitled "HIV and TB: Important Considerations."

Case 3

1. *How would you differentiate between cryptococcus and toxoplasmosis infections with respect to:*

    a. Clinical presentations
    b. Laboratory parameters
    c. Diagnostic work ups

    Clinically—Emphasize the subtle, progressive nature of cryptococcal meningitis--the presence of nonspecific complaints of malaise, fever and headache. At times, though, headache can be incapacitating. With toxoplasmosis – it also can be subtle but can also present with focal neurological findings (30%) or seizure (15-30%). Headache can be mild and long-term.

    Laboratory—Review importance of serological tests of cryptococcal Ag and toxoplasmosis titer. Elaboration of findings on CSF examination – often normal in cryptococcal meningitis, may have mildly increased cells; in toxoplasmosis – it can be either normal or the protein can be increased. When available, India Ink + crypto Ag in the CSF should also be completed.

    Diagnostic—CT scan. Often normal in cryptococcal meningitis. Often there is a ring-enhancing lesion in toxoplasmosis (need to rule out lymphoma, MAC, etc.) Most experts recommend an empiric trial of anti-toxoplasmosis therapy in those with clinical and serological evidence to suggest the condition. Those who do not respond may need additional diagnostic procedures, i.e. brain biopsy, to confirm the diagnosis. Refer to the handout on differential cryptococcal meningitis from toxoplasmic encephalitis.

2. *What are the current treatment regimens—including initial therapy and life-long suppression—for cryptococcal meningitis and toxoplasmic encephalitis?*

    Refer to references 5 and 6 in the Suggested Readings for current regimen. One should emphasize importance of lifetime maintenance of suppressive therapy in both conditions. The role of home health agencies or other alternative resources for outpatient intravenous therapy or need for follow-up oral therapy should also be discussed.

SECTION 5 SUGGESTED READING

1. Morris-Jones SD and Easterbrook PJ. Current issues in the treatment of prophylaxis of Pneumocystis carnii pneumonia in HIV infection. *J Antimicrob Chemother*. 1997 Sep;40(3) 315–318

2. Derinski SC. Treatment of Pneumocystis pneumonia in adults with AIDS, *Semin Respir Infect.* 1997 Jun; 12(2): 79–97

3. Kroe DM, Kirsch CM, Jensen WA. Diagnostic strategies for pneumocystis pneumonia *Semin Respir Infect*. 1997 Jun; 12(2): 70–78

4. Graybill JR. Treatment of cryptococcus in patients with acquired immunodeficiency syndrome. *Rev Clin Esp*. 1995 Oct; 1995 Suppl 3: 26–30

5. Aberg JA, Powderly WG. *Cryptococcosis Adv Pharmacol.* 1997; 37:215–251

6. Maruiz P, Bosler EM, Luft BJ. Toxoplasmosis in individuals with AIDS *Infect Dis Clin North Am.* 1994 Jun; 8(2): 365–381

7. Benson CA. Treatment of disseminated Mycobacterium avuim complex disease: a clinician's perspective *Res Microbiol.* 1996 Jan-Feb; 147(1-2): 16–24

SECTION 6 AUDIO-VISUAL RESOURCES

1. **HIV Infection and the Primary Care Physician**. Annotated Slide Lecture Series.

   Author/Developer: Fuller J, Libman H.
   Contact: 508-856-3255

2. **AIDS: An Essential Slide Collection**.

   Author/Developer: Williams I, Mindel A., The Essential Slide Collection.
   Contact: Ian Weller Gower Medical Publishing, 101 Fifth Avenue, New York, NY 10003.

   The following slides are suggested to be used for the cases:

   Case 1 – PCP - Slides 76-83
   Case 2 – TB - Slides 92-96
   Case 3 – Cryptococcus - Slides 110-113
   Toxoplasmosis - Slides 118-120

3. **Opportunistic Infections in AIDS: Pneumocystis Carinii Pneumonia and Toxoplasmic Encephalitis.**

   Author/Developer: Educational Programs, Upjohn Company, 1000 Portage Road, Kalamazoo, MI 49001.

SECTION 7 **HANDOUTS** (ATTACHED)

Diagnosing Pneumocystis Pneumonia (PCP)

1. Presenting Symptoms: often gradual in onset, nonproductive cough, low-grade fever, increasing dyspnea on exertion and fatigue.

2. Presenting Signs: presence of coexistent oral lesions, abnormal lung exam—increased adventitial sounds, if disease is advanced—may show signs of hypoxia.

3. Diagnostic Workup Labs: may have increased sed rate (>100) and increased LDH (2-3x baseline) CXR—may show evidence of perihilar infiltrates, can be normal in early disease.

4. **Most important:** determine level of immune suppression (recent CD_4 level) ± previous PCP prophylaxis.

If suspicion is high, consider:

1. sputum induction—silver stain and acid fast stain

2. arterial blood gas determination in patients with evidence of hypoxia

Because sputum inductions frequently produce false negative results, consider empiric therapy for those patients for whom you have a high clinical suspicion.

May reserve bronchoscopy for those failing therapy or clinical deterioration.

HANDOUT/OVERHEAD 1

HIV and TB—Important Considerations

All patients who are HIV-positive should be tested regularly for evidence of TB exposure.

Conversely, all patients newly diagnosed with TB should be offered HIV testing.

Interpreting Skin Testing:

For those HIV-positive, a 5mm induration (as compared to 10mm) is considered a positive test. Skin testing should be accompanied by an anergy panel (candida and mumps often used as antigens).

Those who are positive on PPD testing should have a CXR completed. If abnormal and/or patient with any respiratory/constitutional symptoms, should have early AM sputums stained for acid fast bacteria.

If a patient is +PPD and negative for AFB staining, suggest one year of Isoniazid 300 mg qd. Consider 2 drug shorter term therapy in those who likely will be noncompliant with longer therapy. You may add Vitamin B6 in those at risk for peripheral neuropathy.

If +PPD and +AFB – Treat as though patient has active tuberculosis. Get cultures and identification to rule out atypical mycobacterium.

While identification is pending, most experts would recommend three-drug therapy for suspected MTB.

Due to increased incidence of multidrug-resistant Tuberculosis, directly observed therapy should be considered for those patients where lack of adherence to the regimen is considered a significant possibility.

HANDOUT/OVERHEAD 2

Differentiating Cryptococcal Meningitis from Toxoplasmic Encephalitis

In many cases, it may initially be difficult to differentiate the two entities based solely on clinical findings.

Symptoms/Signs

Cryptococcus note subtle, progressive nature of nonspecific complaints of malaise, fever, and headaches.

Toxoplasmosis also can be subtle but more likely to present with associated focal neurological findings (often more acute in nature).

Laboratory

Cryptococcus serum—cryptococcal Ag (read as titers).
CSF—India ink (positive staining of capsule of cryptococcus).

Toxoplasmosis serum—toxo titer. May have baseline result consistent with prior infection, unusual to have acute toxoplasmic encephalitis if previous titers were negative.

Diagnostic

Cryptococcus CT scan and MRI frequently normal.

Toxoplasmosis classically presents as ring-enhancing lesion—may have multiple lesions, need to consider lymphoma and MAI in differential. Often begin empiric therapy for toxo based on CT/MRI results.

HANDOUT/OVERHEAD 3

SUBTOPIC 4

ASSISTING IN THE LONG-TERM CARE NEEDS OF THE PERSON LIVING WITH HIV

TIMELINE (45 minute limit)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
10 min	Overview
20 min	Review of Cases/Questions (minimum of two cases discussed)
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Nurse practitioner, physician assistant, certified nurse-midwife, and medical students (upper level), residents, and practicing clinicians.

At the end of this subtopic, the learner should be able to:

1. Appreciate the benefits of a case management model of coordinated care in providing cost-effective, organized care to those living with HIV disease.

2. Understand the role of the primary care provider in coordinating and maintaining outpatient care through the utilization of home health, residential assisted living, and community services.

3. Appreciate the impact that the new antiretroviral regimens are having on patients' long-term health prospects.

4. Elaborate on the various components of terminal stage care and appreciate the role that the primary care provider can play in facilitating this process.

SECTION 2 OVERVIEW

As of January 1998, there is growing optimism that advances in early intervention, prompt treatment of opportunistic infections, and development of new therapeutic agents will finally make HIV a chronic illness. At the same time, as people with HIV live longer, the emphasis on attending to their long-term needs becomes even more paramount. Fortunately, patients are now faced with the prospect of reentering the work force after being on disability. Changes in work and health situations often force the patient to examine long-term goals and priorities.

The primary care provider is probably best equipped to help meet these long-term needs. With primary care's emphasis on comprehensiveness, continuity, coordination, and attention to psychosocial issues, the discipline is already anchored in the tenets of good HIV care.

Within the HIV service community, this concept is endorsed by the use of a case management model, of which the primary care provider is a prominent member. Issues of medical management, insurance, housing, and employment are seen as part of the overall effect of HIV on the patient's life. A coordinated, organized approach to utilize medical, social and financial resources appears to be the most cost-effective method of attending to the multitude of needs. Primary care providers must use a team approach to solve problems and see care provision as a multidisciplinary effort.

Issues of comprehensive care and continuity can best be illustrated by the importance the provider must place on maintaining adequate follow-up of a patient's medical condition and an understanding of how various components of HIV care are interrelated. For example, maintaining adequate nutrition in patients to avoid weight loss will have long-term benefits in their ability to battle opportunistic infections. HIV care has become chronic care management, interrupted by occasional acute exacerbations, not unlike diabetes mellitus.

The primary care provider's role of coordinator is critical in HIV disease, where the assistance of a multitude of medical/surgical specialists to render comprehensive care is necessary. Having one provider coordinate and advocate for the patient's care is essential.

As the focus of care has become more outpatient-based, the primary care provider must be familiar with the resources available to assist him or her in this venture. The provider plays a key role in maintaining patients on home health care, assisting with residential living (including nursing homes), and serving as a link with other community services. Successful utilization of these resources allows people with HIV to receive the majority of their care outside the hospital.

At the same time, while deaths from AIDS have recently decreased by 40% in some populations, terminal care is unfortunately still a significant part of providing comprehensive HIV care. The primary care provider can assist patients in this process by anticipating needs and planning for them prior to the debilitation of the patient. Community services exist to help

in rendering living wills, durable power of attorney, and other advanced medical directives. The provider should also be familiar with such documents and have them on file as appropriate.

Attention to psychosocial issues at this stage is essential. Allowing the patient as much control as possible over issues of terminal care is beneficial. Mental health services and community services such as hospice are useful for working with grief and dying issues. Because the majority of patients will have some degree of neurological involvement at this stage, it is crucial that important decisions affecting the terminal stage are made as soon as possible.

Many patients, while working through the stages of dying, need the assistance of their primary care provider. Awareness of the common issues in these stages and of available resources to support patients is essential knowledge for the primary care provider.

As HIV has become more of a chronic illness requiring multidisciplinary interventions, it will be absolutely crucial that the primary care provider take a key role in management. Through utilization of the basic tenets of primary care, the provider can help dramatically improve the patient's quality of life.

SECTION 3 CASE STUDIES/DISCUSSION QUESTIONS

Case 1

James W. is a 33–year–old African American male intravenous drug user who recently became homeless. He presents to the practice because he ran out of medications and needs help finding shelter. His most recent CD4 count was 120. He has a history of PCP one time six months ago.

1. How would you, as a primary care provider, assist this patient in finding shelter?

2. What resources could assist you in ensuring the patient took his medications and followed up with medical appointments?

Case 2

Mary C. is a 24–year–old African American female who was recently discharged from the hospital for acute treatment of cryptococcal meningitis (initially with Amphotericin and discharged on Fluconazole 400 mg qday). She lives at home with her two children, ages 4 and 6. She visits the practice and states she is becoming more forgetful and having trouble taking care of chores at home.*

1. What are the long-term care needs of someone with cryptococcal meningitis?

2. How should you work up her complaints of forgetfulness?

3. What are some of the long-term needs of this patient that you must address?

*This case correlates to Case 1 in Subtopic 1, Case 2 in Subtopic 2, and Case 3 in Subtopic 3 and can be followed throughout.

Case 3

Sam L. is a 42–year–old white male diagnosed with PCP two years ago. CMV retinitis and HIV wasting were diagnosed six months ago. He has become progressively more debilitated and has been on disability. Over the past six months, while on combination antiretroviral therapy, he has regained weight and strength. He is contemplating returning to work and confides in you that his long-term partner is having some trouble adjusting to his new health status.

1. How would you assist this patient and his partner?

SECTION 4 SUGGESTED ANSWERS

Case 1

1. *How would you, as primary care provider, assist this patient in finding shelter?*

2. *What resources could assist you in ensuring the patient took his medications and followed up with medical appointments?*

   Use these questions to illustrate the utility of the case management model in coordinating care. Discuss the team concept of managing this patient with the importance of medical, social, and financial concerns being met if any care is to be provided.

   Review available community services that may help in this patient's management.

Case 2

1. *What are the long-term care needs of someone with cryptococcal meningitis?*

   Review the need for lifetime suppressive therapy, with regular follow up including laboratory monitoring. This can be used to demonstrate the need for either a home health agency or another community agency to maintain treatment in an outpatient setting. Review available community agencies.

2. *How should you work up her complaints of forgetfulness?*

   First, you need to rule out a recurrence of the cryptococcal meningitis. If this is negative and no other opportunistic infections are found, you can emphasize the increased incidence of HIV encephalopathy (HIV Dementia) seen at this stage. If this is the case, there is a need for multidisciplinary work-up and development of a treatment plan.

3. *What are some of the long-term needs of this patient that you must address?*

   Emphasize that the patient is giving you clues that she may not be able to live and take care of her children at home for much longer. Any anticipatory planning you can do to assist her is useful.

   Review local availability of:

1. Personal care attendant/home health aide

2. Assisted residential living and/or nursing home

Discuss special concerns and arrangements one must make for the family to help them cope with this illness and plan for back-up child care. Refer to handout on disability determination. [Query--where is handout?]

Case 3

1. *How would you assist this patient and his partner?*

Making the decision to return to work and resetting long-term priorities can be stressful for both the patient and his or her family members. The decision needs to be thought through because health insurance benefits often may be at risk when first restarting work. One should offer both the patient and his significant other the opportunity for some short-term counseling to review the options objectively and help work through the changes. Long-term relationships are at risk at this time of potential great change in roles for both partners.

Often the most important issues for patients at this time are adequate pain control, fear of abandonment, and attention to the grieving process.

Stress the importance of follow-up grief work and support for the patient's family.

This case illustrates the need for preplanning. Six months ago, with the diagnosis of CMV retinitis and wasting, the issues of death and dying should have been discussed with the patient. This approach allows the patient maximum possible control over his or her completion of the terminal stages of illness.

SECTION 5 SUGGESTED READING

1. Smith M. Primary care & HIV disease. *J Gen Intern Med S. 1992* 56–62.
   Reviews basic principles of primary care and how providers are best equipped to meet the needs of HIV-positive patients.

2. Long-Term care needs of hospitalized persons with AIDS. *J Gen Intern Med.* 1991;6(10):27–34.
   Review of the most common long-term needs of AIDS patients taken during hospital interviews and chart review.

3. Buchanan, RJ. Medicaid eligibility policies for people with AIDS *Soc Work Health Care*. 1996;23(2): 15–41.

4. McCormack T. *The AIDS Benefits Handbook.* Everything You Need to Know to Get Social Security, Welfare, Medicaid, Medicare, Food Stamps, Housing, Drugs and Other Benefits. New Haven, CT: Yale University Press. 1990.

5. American Red Cross. *A Guide to Home Care for the Person with AIDS.* Order from local American Red Cross office. 1990.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **AIDS in the Primary Care Setting (1988)**. Videotape, 21 minutes; facilitator's guide. Presents accurate information about AIDS and HIV for all health care providers. Provides information about HIV and how it is and is not transmitted. Universal precautions that health care providers can use to decrease the spread of HIV infection are illustrated. Reasonable patient management guidelines from CDC are presented so that empathetic and reassuring care can be provided for all patients and their families. Also appropriate for office staff in primary care settings.

   Author/Developer: Nancy Eddy, BSN, MA, and Lynn Swan, MD, The University of Michigan.
   Contact Person: University of Michigan Medical Center Media Library, 313-998-6140.

2. **AIDS: Identifying Community Resources (1989)**. Videotape, 40 minutes; facilitator's guide. Provides the health care professional with insight into what resources are typically available.

   Author/Developer: Donna Jones, BS
   Contact Person: Joni Rehner, East Central AIDS ETC, 614-292-1400.

SECTION 7 HANDOUTS (ATTACHED)

SUBTOPIC 5

COMMUNITY-ORIENTED PRIMARY CARE (COPC) APPROACH TO HIV/AIDS

Developed by Pritinder Saini, M.D., M.P.H., Lahey Clinic and Center for Community Responsive Care, Boston, Massachusetts

TIMELINE (55 minutes)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
5 min	Overview
40 min	Review of Case/Questions

If additional time is available, the group may want to do the 15–inute suggested role-play in Section 4.

SECTION 1 LEARNING OBJECTIVES

Target Group: Nurse practitioner, physician assistant, certified nurse-midwife and medical students, and practicing clinicians.

At the end of this subtopic, the learner should be able to:

1. Determine the need for an educational program in the community.

2. Define community, particularly for the purpose of an HIV education program.

3. Identify sources of demographic information about the community.

4. Learn methods of involving community members in planning, implementing, and evaluating an HIV education program.

5. Identify the role of the physician in a community-based health promotion program.

SECTION 2 OVERVIEW

In community-oriented primary care, the community is viewed as a patient. Clinical methods of diagnosing disease in individual patients have an analogue in COPC. (See handout, Section 7.) [Query--please clarify]

SECTION 3 CASE STUDY/DISCUSSION QUESTIONS

You are a physician in a practice located in the community where John W. lives. John W. has been diagnosed recently as HIV-positive. He denies homosexual activity, previous blood transfusions, and intravenous drug use. He is reluctant to disclose his sexual contacts. You wish to prevent HIV transmission in the community and to apply COPC principles for community HIV education. Recently, you recall other patients discussing their worries about HIV transmission. You therefore proceed to establish that HIV transmission is a potential problem in the community.

You realize the need to define the target community for the purpose of designing an appropriate HIV health education intervention. Recognizing the importance of working with the community to reduce the likelihood of HIV transmission, you convene a group of individuals representing the community, local health agencies, and nearby academic institutions. This committee identifies teenagers as being at high risk for HIV infection due to high rates of teen pregnancy, STD transmission, and drug abuse, concluding that it is important to educate them about HIV. Their decision is based on the following factors.

- No agency has been involved in educating teenagers in this community.
- An opinion survey indicates that community members view HIV as an important health issue.
- The teenage pregnancy rate in this community is higher than the state average.

1. Why do you wish to get involved in COPC activity? How might you prepare yourself?

2. How do you define "the community"?

3. How will you confirm your suspicion that HIV transmission is moderate to high in the community? From whom will you obtain this information? What are the different methods of obtaining it?

4. What epidemiologic data might be useful in assessing the probability of other HIV cases in the community? Name some of the sources. What sources can provide demographic information about the community? (Demographics include number of local residents, age and sex distribution, and income, and education level.)

5. How does John W.'s case influence you in defining community for the purpose of HIV education?

6. What interventions might be initiated if a knowledge survey of high school students showed many misconceptions about HIV transmission? How would you go about implementing these strategies?

7. How could you evaluate whether HIV/AIDS education programs for adolescents are effective?

SECTION 4 SUGGESTED ANSWERS

1. *Why do you wish to get involved in COPC activity? How might you prepare yourself?*

   John W. represents the tip of an iceberg. There are several people in the community where John W. lives who are at risk of HIV transmission. Many others may have asymptomatic HIV infection that might benefit from early health care. HIV is a preventable disease and as a responsible physician, your aim is to promote health. By engaging in COPC, you can build a social support system for John W. and contribute to preventing the spread of the disease.

   To be an effective community-responsive physician, you need to learn the population health sciences and approaches to community organizing. These skills can be obtained through pursuing COPC training or taking epidemiology and health promotion/disease prevention courses at schools of public health and social work. For more background on COPC, see the Suggested Readings listed in Section 6 of this subtopic.

2. *How do you define "the community"?*

   Encourage consideration of what constitutes a community. While the first response is often framed in geographic terms, community is also associated with identity, group cohesiveness, and utilization of existing resources. People are often members of numerous communities. Frequently, we may view a person as being part of a community of which he does not consider himself a part. Knowing the communities to which people relate helps lay the groundwork for effective programs.

   John W. is your patient and you have initiated an investigation to determine if HIV transmission is a potential problem in the community where he lives. Therefore, you define "community" arbitrarily. However, when HIV infection has been defined as a problem, you invite volunteers from the community to form a task force. Members of this task force may represent local community members that you initially interviewed, elected members, representatives of local health care agencies, of public health agencies, representatives of local businesses, representatives of local or regional AIDS lobby, John W., and volunteer HIV-infected patients. The task force will be responsible for defining the community for intervention programs; it may also opt to redefine health problems and set priorities.

3. *How will you confirm your suspicion that HIV transmission is moderate to high in the community? From whom will you obtain this information? What are the different methods of obtaining it?*

Before embarking on a time-consuming intervention, you need to establish the existence of high-risk behavior that promotes HIV transmission among the residents of the community where John W. lives.

A logical first step will be to inquire about additional HIV-infected people and AIDS patients seen at the health center and at local health practitioners' offices. Surrogate markers of increased HIV transmission can also be gathered, such as information on STD occurrence. Gathering subjective information on the prevalence of a disease is called opinion data.

It is important to gather opinion data from the community for the following reasons:

- During the process of gathering the information, you involve the community. Success or failure of a particular health promotion/disease prevention program depends on whether the community perceives HIV/AIDS as a public health problem in the community and is willing to work toward solving it.

- People living in the community face certain problems unique to the community, and thus their perceptions of existing health problems are valuable.

- Epidemiologic data may not reflect the health problems of the smaller area in question; this makes opinion data about the particular community a necessary part of an assessment.

Good sources of information include senior citizens, civic leaders, newspaper reporters, clergy, police, school officials, directors of youth centers, and students.

Opinion data are obtained by face-to-face interviews, by telephone, or through focus groups. Written questionnaires should be designed to obtain opinions about the perceived health problem in the community where John W. lives. These questionnaires may be filled out in the health center patient waiting rooms or mailed to randomly selected residents, churches, schools, or local gatherings. The question design should be simple, clear and concise, and the questions may be open-ended or closed.

4. *What epidemiologic data might be useful in assessing the probability of other HIV cases in the community? Name some of the sources. What sources can provide demographic information about the community? (Demographics include number of local residents, age and sex distribution, and income and education level.)*

Health statistics for counties include AIDS and STDs as notifiable diseases. These data are available through the local health department and state epidemiology office. Occasionally, individual physician and health center practice information may be obtained from patient billing files. Local police stations document arrests that involve drugs.

Sources of demographic information include census data, town hall, city government, and the police department.

5. How does John W.'s case influence you in defining community for the purpose of HIV education?

John W. has acquired HIV infection through heterosexual activity. You determined that most of the other HIV-infected patients seen at health centers acquired their infection though heterosexual contacts as well. However, almost half were sexual contacts of intravenous drug users. Therefore, the community you select for HIV education will not be homosexuals. Most likely, the task force will select the sexually active, heterosexual population as the community for HIV education. Real-world constraints on resources may cause the task force to select a subsection of the population for intervention. Selection would be based on the task force members' perceptions of a deficit in HIV education service to certain subgroups, or the urgency of need in certain groups.

6. *What interventions might be initiated if a knowledge survey of high school students showed many misconceptions about HIV transmission? How would you go about implementing these strategies?*

Results of a survey suggest a need for HIV/AIDS education directed at local adolescents. A subject so closely associated with sexuality can be very sensitive, especially among teenagers. Therefore, plans for providing educational programs targeted toward this age group should be developed in close collaboration with local educators, parents, and students. Teenagers who have dropped out of school should also be included in the HIV education intervention. This can be accomplished with the help of the local youth center staff, representatives from the school, and volunteer teenagers working along with the physician and parent representatives.

7. *How could you evaluate whether HIV/AIDS education programs for adolescents are effective?*

The simplest method will be to administer the same knowledge survey previously used to measure improved understanding of HIV/AIDS. However, we know from research that knowledge does not always translate into action. A more indicative but long-range measure would be a decrease in the incidence of STDs among adolescents over time. Such figures can be interpreted as indirect indicators of applied knowledge, suggesting greater prophylaxis use or abstinence.

SECTION 5 SUGGESTED ACTIVITY

Role-play a community meeting. Assign members of the group to play the following roles:

- Health center physician
- Representative of health department
- Local resident
- Elected official
- Business person
- Clergy
- HIV-infected person
- Teenage student

Have the group discuss whether HIV/AIDS is a problem, precisely who views it as one, and what should be done about it.

SECTION 6 SUGGESTED READING

1. Mullen F. "Community-Oriented primary care: Epidemiology's role in the future of primary care." *Public Health Reports*, 99(5), Sept./Oct. 1984, 442–445.
   This article discusses how COPC can move from a largely theoretical stage to prominence in health services delivery. The author calls for the development of primary care epidemiology to bridge the fields of clinical primary care and traditional epidemiology.

2. Walker R. "Evaluating impact in COPC," in *COPC: From Principle to Practice*, Nutting, P, ed., U.S. Government Printing Office, Health Resources and Services Administration, 1987.
   This chapter discusses evaluation as a major component of COPC and covers reasons to evaluate, practical methods of evaluation and application of results.

3. Horowitz C, et al. "Group Process Techniques for COPC Practice," in *COPC: From Principle to Practice*, Nutting, P, ed., U.S. Government Printing Office, Health Resources and Services Administration, 1987.
   This chapter briefly summarizes the characteristics and research requirements of four group consensus approaches: brain storming, nominal group technique, delphi and ringi. The chapter reviews criteria for selecting among these techniques.

SECTION 7 HANDOUT/OVERHEAD (ATTACHED)

COPC Versus Traditional Primary Care

	Individual Patient	Community as Patient
1. Subjective evaluation		
Similarity	Chief complaints	Community's perceived need
Difference	Patient comes to provider for help	Provider selects the community and conducts an opinion survey to define the perceived health issues
2. Objective evaluation	History, physical and laboratory data	Epidemiologic data
3. Treatment	Specific treatment of identified problem	Intervention program
4. Subsequent care	Follow-up	Ongoing evaluation and feedback, with appropriate modifications

HANDOUT/OVERHEAD 1